



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,656	12/27/2007	Xiaoqin Duan	9896-000086/US/NP	7933
97617	7590	08/04/2010	EXAMINER	
Harness, Dickey & Pierce, P.L.C. P.O. Box 828 Bloomfield Hills, MI 48303				SHEN, QUN
ART UNIT		PAPER NUMBER		
2617				
NOTIFICATION DATE			DELIVERY MODE	
08/04/2010			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jmlafata@hdp.com  
troydocketing@hdp.com  
uspatent@huawei.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/585,656	DUAN, XIAOQIN	
	<b>Examiner</b>	<b>Art Unit</b>	
	QUN SHEN	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 4/19/10.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 21-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 21-44 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 April 2010 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ .  | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

This communication is a Second Action Final on the merits. Claims 1-20 have been canceled. Claims 21-25, 27-29, 32-40, and 42 are amended. Claims 43-44 are new. Claims 21 -44, after amendment, are currently pending and have been considered below.

### *Priority*

Applicant's claimed foreign priority based on PCT application PCT/CN05/00031 filed on January 10, 2005 is acknowledged. However, applicant should submit certified copy of foreign applications.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 21 recites "the V-GMLC sending the location estimate of the target UE to the target UE via the CN". Examiner could not find support from original specification. In page 13, lines 16 – 20, as pointed by applicant, the specification teaches:

*"Step 305: after finishing locating the target UE, the RAN returns a target UE location report to the CN, if the RAN successfully locates the target UE to obtain the location information of the target UE, the target UE location report will carry the location information of the target UE; if the RAN fails in obtaining the location information of the target UE, the target UE location report will carry the error reason."*

In referencing Fig 3, it is clear that after locating the target UE (e.g. obtaining the location estimate of the target UE), a target UE location report is sent to CN by RAN, then forwarded to V-GMLC, and through GMLC finally to the Requester of the target UE location, instead of the V-GMLC sending the location estimate of the target UE to the target UE via the CN as recited in amended claim 1.

Claim 33 recites the same limitation as claim 21 and is therefore rejected with the same reason. Claims 22-32, and 34-44 depend on their base claims 21 and 33, and are rejected the same.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: (See MPEP Ch. 2141)

Determining the scope and contents of the prior art;  
Ascertaining the differences between the prior art and the claims in issue;  
Resolving the level of ordinary skill in the pertinent art; and  
Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

**2. Claims 21-24, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 7,031,722 B2, Naghian (hereinafter Naghian), in view of US 2004/0203914 A1 Kall et al. (hereinafter Kall).**

As to claim 21, Naghian discloses a method for processing location information request initiated by a User Equipment (UE) (Fig 5), comprising:

receiving, by a Central Network (CN), a request for location information from a target UE (col 15, lines 48-61, also see ETSI standard for GSM phase 2+, Sec 5.1.1 on mobile originated location services), and the CN obtaining a location estimate of the target UE (col 16, lines 6- 8, note 3G-MSC is part of 3G network);

the CN sending the location estimate of the target UE to a Visited Gateway Mobile Location Center (V-GMLC) of the target UE (col 15, lines 33-40, col 16, lines 44-51).

Naghian discloses the network (3G-MSC) sending the location estimate (location report) to a GMLC but does not expressly disclose the GMLC being a Visited Gateway Mobile Location Center (V-GMLC) or a H-GMLC. However, an ordinary skilled in the art would appreciate that the GMLC would be the one presently associated with the UE. When

the UE is outside its own network (i.e. roaming to or visiting a foreign network), this GMLC can then be the GMLC associated with the network the UE is visiting, i.e. a Visited GMLC. In other words, Naghian's GMLC can either be a home GMLC (H-GMLC), or a visited GMLC (V-GMLC), depending upon where the UE is located at the time.

Kall, in the same or similar field of endeavor, teaches that GMLC includes H-GMLC and V-GMLC which serves as gateways when a UE is in home network and roamed to a foreign network (Fig 1: 101c, V-GMLC: 101b, H-GMLC, par 0004, ). Consider both Naghian and Kall's teachings together, it would have been obvious to one of skill in the art at the time of invention to utilize Naghian's GMLCs as H-GMLC or V-GMLC by incorporating Kall's teachings to distinguish H-GMLC and V-GMLC depending on where the UE is located in the network coverage area for better location service for the UE.

As to claim 22, Naghian as modified discloses the method according to claim 21, further comprising: according to a pre-stored V-GMLC address information, the CN sending the location estimate of the target UE to the V-GMLC (Naghian: col 7, lines 42-46, Kall: par 0042, 0044).

As to claim 23, Naghian as modified discloses the method according to claim 21, wherein, after the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE, the method further comprises: the V-GMLC generating charging

information of the target UE (Naghian: col 14, lines 23-26, note HLR is part of CN).

As to claim 24, Naghian as modified discloses the method according to claim 21, wherein, after the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE, the method further comprises: the V-GMLC returning to the CN a response for the location estimate of the target UE (Naghian: col 14, lines 29-38, note 3G-MSC is part of CN).

As to claim 44, Naghian as modified discloses the method according to claim 21, wherein the location estimate of the target UE carries location information of the target UE, a requester identifier, a target UE identifier (Naghian: col 16, lines 44-51, location estimate, MSISDN, IMSI and IMEI of the calling MS (e.g. a requester identifier) and GMLC address information (Kall: pars 0042).

**3. Claims 25-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naghian, in view of Kall, and further in view of US 7,277,711 B2, Nyu (hereinafter Nyu).**

As to claim 25, Naghian as modified discloses the method according to claim 21, further comprising:

receiving, by the CN, a requester identifier from the target UE (Naghian: Fig 8:1,2 col 14, lines 3-14, identity of the LCS client (e.g. requester identifier) which can be derived from the UE by GMLC, also Kall: pars 0051-0055, the identifier (NAI) being submitted

by a WLAN terminal, claim 20);

the CN providing the V-GMLC with the requester identifier (Naghian: Fig 8:8); and Naghian as modified does not expressly disclose that the V-GMLC sending the location estimate of the target UE to the requester.

Nyu, however, teaches the V-GMLC may send the location report (location estimate) to the client (requester) after the location measurement 708, (Nyu: Fig 7, 709, also Figs 10, 12, 14). Consider Naghian as modified and Nyu's teachings together, it would have been obvious to one of skill in the art to further modify Naghian as modified's method by incorporating Nyu's teachings described above such that the location estimate of the UE can be provided to the requester appropriately.

As to claim 26, Naghian as modified discloses the method according to claim 25, wherein, the step of the V-GMLC sending the location estimate of the target UE to the requester comprises: the V-GMLC determining whether the V-GMLC can directly access the requester according to the requester identifier, if the V-GMLC can directly access the requester according to the requester identifier, the V-GMLC directly sending the location estimate of the target UE to the requester (Nyu: Figs 23:2309, RHV-GMLC 2ABC accesses client 1ABC (requester) directly); otherwise, according to the requester identifier, the V- GMLC finding a GMLC that can directly access the requester, and sending the location estimate of the target UE to the requester through the GMLC (Nyu: Figs 18:1812, 20:2009, V-GMLC 2BC accesses client 1A (requester) through R-GMLC

2A).

As to claim 27, Naghian as modified discloses the method according to claim 25, wherein, after the step of the V- GMLC sending the location estimate of the target UE to the requester, the method further comprises: the requester returning a first response for the location estimate of the target UE to the V-GMLC (Nyu: Figs 2, 6), and the V-GMLC returning a second response for the location estimate of the target UE to the CN (Nyu: Figs 2, 6). It is obvious that Nyu provides the means to send the response from requester via V-GMLC to CN as a choice of design.

As to claim 28, Naghian as modified discloses the method according to claim 26, wherein, after the step of the V- GMLC directly sending the location estimate of the target UE to the requester, the method further comprises: the requester returning a first response for the location estimate of the target UE to the V-GMLC (see claim 27), and the V-GMLC returning a second response for the location estimate of the target UE to the CN (see claim 27); and after the step of the V-GMLC finding the GMLC that can directly access the requester and sending the location estimate of the target UE to the requester through the GMLC, further comprising: the requester returning a first response for the location estimate of the target UE to the GMLC (Nyu: Fig 2, between 11 and 21, see claims 26 and 27), the GMLC returning a second response for the location estimate of the target UE to the V-GMLC (Nyu: Fig 2, between 21 and 2C (via 37)), and the V-GMLC returning a third

response for the location estimate of the target UE to the CN (Nyu: Fig 2, between 2C and 3C). From Fig 2 of Nyu, ordinary skill in the art would appreciate that Nyu's system would possess intrinsic capability of providing the communication channel and protocol for delivering the response as described above.

As to claim 29, Naghian as modified discloses the method according to claim 26, wherein, the step of receiving, by the CN, the requester identifier from the target UE further comprises: the target UE providing address information of the GMLC that can access the requester to the CN (Kall: par 0042, network address of GMLC is provided based on WLAN terminal (e.g. target UE) identify); the step of the CN sending the location estimate of the target UE to the V-GMLC of the target UE further comprises: the CN providing the address information of the GMLC to the V-GMLC (Kall: par 0042, HSS/HLR (part of CN) returns the address of the V-GMLC); and the step of the V-GMLC sending the location estimate of the target UE to the requester comprises: the V-GMLC receiving the location estimate of the target UE (see claim 21) and sending the location estimate of the target UE as well as the requester identifier to the GMLC according to the address information of the GMLC (see claim 25); the GMLC receiving the location estimate of the target UE and sending the location estimate of the target UE to the requester according to the requester identifier (see claim 26).

As to claim 30, Naghian as modified discloses the method according to claim 29, wherein, after the step of the GMLC receiving the location estimate of the target UE and sending the location estimate of target UE to the requester according to the requester identifier, further comprising: the requester returning a first response for the location estimate of the target UE to the GMLC, the GMLC returning a second response for the location estimate of the target UE to the V-GMLC, and the V-GMLC returning a third response for the location estimate of the target UE to the CN (it is rejected on the same ground of claim 28. See discussions on claims 28).

As to claim 31, Naghian as modified discloses the method according to claim 21, wherein, the CN is any one of: a Mobile Switch Center (MSC) (Naghian: Fig 6, 3G-MSC), an MSC Server and a Serving GPRS Support Node (Naghian: Fig 6, 3G-SGSN, Nyu: col 1, lines 41-42).

As to claim 32, Naghian as modified discloses the method according to claim 21, wherein, the step of receiving, by the CN, the request for location information from the target UE comprises: receiving, by the CN, an LCS MO-LR Location Services Invoke from the target UE (Naghian: Fig 8, col 15, line 48- col 16, line 14).

As to claim 33, Naghian as modified discloses a method for processing location information request initiated by a User Equipment (UE), comprising:  
a Center Network (CN) receiving a request for location information ( see claim 21

above) and a requester identifier from a target UE (see claim 25), the CN obtaining the location estimate of the target UE (see claim 21);  
the CN sending the location estimate of the target UE to a V-GMLC of the target UE (see claim 21);

The V-GMLC sending the location estimate of the target UE to the target UE via the CN;

Naghian as modified does not expressly disclose the V-GMLC sending the location estimate of the target UE to a H-GMLC; and the H-GMLC sending the location estimate of the target UE to the requester. Nyu, however, teaches that V-GMLC may send the location estimate of the target UE to a H-GMLC and the H-GMLC sending the location estimate of the target UE to the requester (Nyu: Fig 35A, after location measurement 3509, 3510 provides location report from V-GMLC 2C to H-GMLC 2B, then client 1A (requester)). Consider Naghian as modified and Nyu's teachings together, it would have been obvious to one of skill in the art at the time of invention to further modify Naghian as modified's method by incorporating Nyu's teachings described above via V-GMLC and H-GMLC in order to provide the location report to the requester.

As to claim 34, claim 34 is rejected the same as claim 23.

As to claim 35, claim 35 is rejected the same as claim 23. In this case GMLC generating charging information of the target UE can be either V-GMLC or H-GMLC.

As to claim 36, claim 36 is rejected the same as claim 26.

As to claim 37, claim 37 recites same limitation as claim 27 except that the requester returning the location estimate to H-GMLC first then passing to V-GMLC from H-GMLC. It represents a different choice of design of claim 27 and therefore rejected the same.

As to claim 38, following same reasoning as claim 37, claim 38 is rejected the same reason as claim 28.

As to claim 39, claim 39 recites similar limitations as claim 29 with a slight variation of passing the address to H-GMLC. It is therefore rejected the same as claim 29.

As to claim 40, claim 40 recites the same limitations as claim 30 except the response of requester being returned to H-GMLC before returning to V-GMLC. Following the same rationale as claim 37, claim 40 is rejected with the same reason as claim 30.

As to claims 41 and 42, they are rejected the same as claim 31 and 32, respectively.

As to claim 43, Naghian as modified discloses the method according to claim 21, further comprising: sending, by the V-GMLC, the location estimate of the target UE to a GMLC that can directly access a specified requester (Nyu: Fig 7); and providing, by the GMLC, the specified requester with the location estimate of the target UE (Nyu: Figs 6 – 7).

***Response to Argument***

Applicant's arguments filed on April 19, 2010 have been fully considered but they are not persuasive.

Applicant essentially argues that the cited references do not address "the CN sending the location estimate of the target UE to a Visited Gateway Mobile Location Center (V-GMLC) of the target UE" in independent claims 21 and 33.

As discussed in the office action, Naghian teaches the network (3G-MSC) sending the location estimate (location report) to a GMLC. Although the GMLC is not explicitly taught to a Visited Gateway Mobile Location Center (V-GMLC). However, an ordinary skilled in the art would appreciate that the GMLC would be the one presently associated with the UE. When the UE is outside its own network (i.e. roaming to or visiting a foreign network), this GMLC can then be the GMLC associated with the network the UE is visiting, i.e. a Visited GMLC. In other words, Naghian's GMLC can either be a home GMLC (H-GMLC), or a visited GMLC (V-GMLC), depending upon where the UE is located at the time. Kall further teaches the above understanding by explaining that GMLC includes H-GMLC and V-GMLC which serves as gateways when a UE is in home network and roamed to a foreign network. Therefore, it would have been obvious to one of skill in the art at the time of invention to consider network sending the location estimate the target mobile to V-GMLC since it would be the one most convenient to send to.

As to amended limitation "The V-GMLC sending the location estimate of the target UE to the target UE via the CN" in claims 21and 33, examiner could not find support from original specification. See rejection above.

***Conclusion***

Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUN SHEN whose telephone number is (571)270-7927. The examiner can normally be reached on 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jinsong Hu can be reached on (571) 272-3965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/QUN SHEN/  
Examiner, Art Unit 2617

/Lewis G. West/  
Supervisory Patent Examiner, Art  
Unit 2617